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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,326	06/27/2001	Glenn Knight	T8466414US	3656

7590 06/21/2005

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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,326

Applicant(s)

KNIGHT, GLENN

Examiner

Hien Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/4/05 & 1/3/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Drawings

1. The drawings are objected to because in Fig. 2B (filed on 1/3/05), "80" should be changed to --88--. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

3. The disclosure is objected to because of the following informalities:

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On page 6, after line 8 in the inserted paragraph, line 6 "18" should be changed to --16-- (note line 5).

On page 7, after line 3 in the inserted paragraph, line 5 "16" should be changed to --18-- (note page 4, line 22)

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 4 is objected to because of the following informalities:

In claim 4, line 3 "extends" should be changed to --extend--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 7, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, it is unclear as to what applicant is attempting to recite and how the sections are related to the parts set forth in claim 6, lines 2-3. See claim 13 likewise.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. The art area applicable to the instant invention is that of catalytic muffler.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582

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1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

12. Claim 1 is rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 97/43528.

With respect to claim 1, WO 97/43528 discloses a catalytic muffler comprising:

a housing having a first chamber, and a second chamber fluidly communicating through a catalyst bearing reactor bed interspersed therebetween; said reactor bed having a plurality of discrete passages extending longitudinally therethrough to provide fluid communication between the first and second chambers;

a first baffle assembly in said first chamber extending between the housing and the catalyst bed;

an inlet passage extending through said housing into said first chamber;

an outlet passage extending through said housing into said second chamber;

a second baffle assembly in said second chamber extending between the catalyst bed and the housing;

said first and second baffle assemblies acting in conjunction with said housing and said catalyst bed to define a flow passage through said housing from the inlet passage to said outlet passage requiring two sequential passes through said reactor bed with each subsequent of said passes being through a discrete, laterally adjacent zone of said reactor bed and opposite in

direction to an immediately preceding of said passes (see, for example, Fig. 10; page 2, line 29 to page 3, line 7; page 4, lines 22-24; page 16, line 31 to page 17, line 13).

Although WO 97/43528 shows only two sequential passes in Fig. 10, WO 97/43528 further discloses that more flow reversals can be accommodated internally in the silencer/monolith combination (page 4, lines 22-24) and therefore meet the phrase of "at least three sequential passes" of the instant claim.

In any event, the use of more than two sequential passes are within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system thereof as set forth on page 4, lines 22-24 of the WO 97/43528 and since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

13. Claims 2-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of FR 2,226,865.

With respect to claims 2-4, 8, the apparatus of WO 97/43528 is substantially the same as that of the instant claims, but fails to disclose whether at least one of the inlet and outlet passages may extend through a side of the housing.

However, FR 2,226,865 discloses the conventionality of providing a muffler in which at least one of the inlet and outlet passages extends through a side or end or ends of the housing.

It would have been obvious to one having ordinary skill in the art to alternately select an appropriate location for at least one of the inlet and outlet passages, such as the ones taught by FR 2,226,865 in the apparatus of WO 97/43528 on the basis of its suitability for the intended use

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as a matter of obvious design choice, absence showing any unexpected results thereof, and since such is conventional in the art as evidenced by FR 1,226,865 and no cause for patentability here.

With respect to claims 5, 7, 11, 13, WO 97/43528 discloses that the housing is cylindrical.

With respect to claims 6, 9-10, 12, WO 97/43528 discloses that the catalyst bed including an oxidizing catalyst in one part and a reducing catalyst in another part (page 17, lines 1-13).

14. Claims (14-15)/1 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of Harris (4,601,168) and White et al (5,578,277).

The apparatus of WO 97/43528 is substantially the same as that of the instant claims, but fails to disclose the specific parts of the housing as claimed.

However, Harris discloses that the housing comprises cup shaped first and second parts joined at respective outer edges to a sleeve (Fig. 1).

White et al discloses that the housing comprises cup shaped first and second parts joined at respective outer edges (Figs. 4-5).

It would have been obvious to one having ordinary skill in the art to provide a housing with first and second parts as taught by Harris and White et al in the apparatus of WO 97/43528, on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results thereof and since it has been held that forming in two pieces an article which has formerly been formed in one pieces involves only routine skill in the art.

Howard v. Detroit Stove Works, 150 U.S. 164 (1893).

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15. Claims (14-15)/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of FR 2,226,865 as applied to claim 2 above, and further in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claims 1, 4, (5-13)/4 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 and FR 2,226,865.

The claims 1-2, 9-10 of U.S. Patent No. 6,622,482 is substantially the same as that of the instant claims, but fails to disclose the at least three sequential passes with each subsequent of said passes being through a discrete, laterally adjacent zone of said reactor bed and opposite in direction to an immediately preceding of said passes and also fails to disclose whether at least one of the inlet and outlet passages may extend through a side of the housing.

The same teachings of WO 97/43528 apply.

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18. Claims 2-3, (5-7, 12-13)/(2-3) are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 and FR 2,226,865.

The same teachings of WO 97/43528 and FR 2,226,865 apply.

19. Claims (14-15)/1 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 as applied to claim 1 above and further in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

20. Claims (14-15)/2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 and FR 2,226,865 as applied to claim 2 and further in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

Response to Arguments

21. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that none of the variations in WO 97/43528 show the use of baffles in a first or second chamber extending between the housing and the catalyst. Such contention is not persuasive as in Fig. 10 of WO 97/43528, the baffle is shown in the first inlet chamber which directs the exhaust gases to the annular monolith 5i and another baffle is shown in the second outlet chamber which causes the exhaust gas flow reverses.

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Applicant argues that Fig. 10 of WO 97/43528 does not meet the at least three passes as claimed. Such contention is not persuasive as although Fig. 10 of WO 97/43528 only shows two passes, WO 97/43528 does disclose that that more flow reversals can be accommodated internally in the silencer/monolith combination (page 4, lines 22-24) and therefore meets the instant claim. In any event, the use of more than two sequential passes are within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system thereof as set forth on page 4, lines 22-24 of the WO 97/43528 and since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Applicant argues that the first and second chambers of WO 97/43528 don't directly fluidly communicate through the catalyst bed but rather through a pipe of channel 6. Such contention is not persuasive as the first and second chambers of WO 97/43528 are fluidly communicating through a catalyst bed as required in the instant claims. The use of pipe 6 in WO 97/43528 is not excluded from the instant claims.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT
June 17, 2005


Hien Tran
Primary Examiner
Art Unit 1764